6BM8/ECL82

High-Mu Triode—Power Pentode

Electrical:

Heater Characteristics and Ratings:

Voltage (AC or DC)	6.3 ± 0.6	volts
Current at heater volts = 6.3	0.780	amp
Peak heater-cathode voltage	100	volts

Direct Interelectrode Capacitances:

Triode Unit:		
Grid to plate	4.0	pf
Input: G_T to (K_T, H)	2.7	pf
Output: P_T to (K_T, H)	4.0	pf
Grid to heater	0.1 max.	pf
Pentode Unit:		
Grid No.1 to plate	0.3 max.	pf
Input: $G1_p$ to ($K_P + G3_P$ + IS, $G2_P$, H)	9.3	pf
Output: P_P to ($K_P + G3_P$ + IS, $G2_p$, H)	8.0	pf
Grid-No.1 to heater	0.3 max.	pf
Triode plate to pentode grid No.1	0.02 max.	pf
Triode grid to pentode plate	0.02 max.	pf
Triode grid to pentode grid No.1	0.025 max.	pf
Triode plate to pentode plate	0.25 max.	pf

Mechanical:

Operating Position	Any
Type of Cathodes	Coated Unipotential
Maximum Overall Length	3-1/16"
Maximum Seated Length	2-13/16"
Length, Base Seat to Bulb Top (Excluding tip)	2-7/16" ± 3/32"
Diameter	0.750" to 0.875"
Dimensional Outline (JEDEC No.6-4)	See *General Section*
Bulb	T6-1/2
Base	Small-Button Noval 9-Pin (JEDEC No.E9-1)
Basing Designation for BOTTOM VIEW	9EX

Pin 1 - Triode Grid
Pin 2 - Pentode Cathode, Grid No.3, Internal Shield
Pin 3 - Pentode Grid No.1
Pin 4 - Heater
Pin 5 - Heater
Pin 6 - Pentode Plate
Pin 7 - Pentode Grid No.2
Pin 8 - Triode Cathode
Pin 9 - Triode Plate

CLASS A$_1$ AMPLIFIER

Characteristics:

	Triode Unit	Pentode Unit	
Plate Voltage	100	200	volts
Grid-No.2 Voltage	–	200	volts
Grid-No.1 Voltage	0	-16	volts
Grid-No.1 Voltage (RMS)	–	6.6	volts
Amplification Factor	70	9.5[a]	
Plate Resistance (Approx.)	–	20000	ohms
Transconductance	2500	6400	µmhos
Plate Current	3.5	35[b]	ma
Zero-Signal Grid-No.2 Current	–	7	ma
Load Resistance	–	5600	ohms
Total Harmonic Distortion	–	10	%
Max.-Signal Power Output	–	3.5	watts

Maximum Ratings, *Design-Center Values:*

	Triode Unit	Pentode Unit	
Plate Supply Voltage	550	900	volts
Plate Voltage	300	600	volts
Grid-No.2 Supply Voltage	–	550	volts
Grid-No.2 Voltage	–	300	volts
Grid-No.2 Input	–	1.8	watts
Plate Dissipation	1	c	watts
Average Cathode Current	15	50	ma

Maximum Circuit Values:

	Triode Unit	Pentode Unit	
Grid-No.1-Circuit Resistance:			
For fixed-bias operation	1	1	megohm
For cathode-bias operation	2	2	megohms
Between heater and cathode	0.02	0.02	megohm

[a] Grid No.2 to grid No.1.
[b] Zero-signal plate current.
[c] At plate voltage less than 250 volts, maximum plate dissipation is 7 watts; at plate voltage greater than 250 volts, maximum plate dissipation is 5 watts.